In the claims

This listing of claims will replace all prior versions, and listings of claims, in the application:

1. (Currently amended) A method for detecting period length fluctuations of at least one of a periodic first signal and of a periodic second signal in which a period length of the second signal is shorter than a period length of the first signal and a reference number of the periods of the second signal that arise in the time-span of a base number of periods of the first signal is obtained, ~~that~~ the method comprising:

determining a first reference number for a first period length of the second signal and a second reference number for a second period length, different from the first period length, of the second signal; and

calculating a measure for the period length fluctuation of at least one of the first signal and of the second signal dependent on the first and second reference number.

2. (Original) The method according to claim 1, further comprising determining at least one reference number of the first and second reference numbers several times.

3. (Original) The method according to claim 2, further comprising determining a standard deviation of period lengths of a signal of the first and second signals as a measure for the period length fluctuation of the signal.

4. (Original) The method according to claim 1, further comprising selecting the first period length of the second signal such that the effect of the period length fluctuation of the first signal is greater than the effect of the period length fluctuation of the second signal on the first reference number.

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5. (Original) The method according to claim 1, further comprising selecting the second period length of the second signal such a manner that the effect of the period length fluctuation of the first signal is less than the effect of the period length fluctuation of the second signal on the second reference number.

6. (Original) The method according to claim 1, wherein the base number of periods of the first signal is 1.

7. (Original) The method according to claim 1, wherein the first signal is an output signal of a phase-locked loop and the second signal is an output signal of a reference oscillator.

8. (Original) The method according to claim 1, further comprising carrying out the method in an integrated semiconductor as a self-test.

9. (Original) The method according to claim 1, wherein at the start of determining a reference number, the first signal and the second signal are in phase.

10. (Original) The method according to claim 1, further comprising determining at least one of the period length fluctuation of the first signal and of the second signal dependent on previously calculated regression coefficients.

11. (Currently amended) An apparatus for detecting period length fluctuations of at least one of a periodic first signal and a periodic second signal in which a period length of the second signal is shorter than a period length of the first signal, wherein the apparatus is designed for comprises an evaluation circuit that: determining determines a reference number from periods of the second signal that arise in the time-span of a base number of periods of the first signal[[,]]: and for determining determines a first reference number for a first period length of the second signal and

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a second reference number for a second period length, different from the first period length of the second signal, dependent on the first reference number and the second reference number, and wherein a measure of the period length fluctuation of at least one of the first signal and of the second signal is determined.

12. (Currently amended) The apparatus according to claim 11, further comprising a reference oscillator for producing the second signal.

13. (Currently amended) The apparatus according to claim 11, further comprising a phase-locked loop, is wherein the apparatus designed such that an output signal of the phase-locked loop is the first signal.

14. (Original) The apparatus according to claim 11, wherein the apparatus is an integrated semiconductor.

15. (Canceled)

16. (Original) An apparatus according to claim 11, wherein at least one reference number of the first and second reference numbers is determined several times.

17. (Original) An apparatus according to claim 16, wherein as a measure for the period length fluctuation of a signal of the first and second signals the standard deviation of period lengths of the signal is determined.

18. (Original) An apparatus according to claim 11, wherein the first period length of the second signal is selected such that the effect of the period length fluctuation of the first signal is greater than the effect of the period length fluctuation of the second signal on the first reference number.

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19. (Original) An apparatus according to claim 11, wherein the second period length of the second signal is selected such that the effect of the period length fluctuation of the first signal is less than the effect of the period length fluctuation of the second signal on the second reference number.

20. (Original) An apparatus according to claim 11, wherein the base number of periods of the first signal is 1.